

Radar interferometry methods of glacier monitoring.

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Satellite radar interferometry is a powerful technique to measure the surface velocity and topography of glacier ice. On ice shelves, it is also capable of retrieving information on the tidal motion of the ice under the steady load of the surrounding ocean waters. The results provide a wealth of information on the location of glacier grounding lines, mass fluxes at the grounding line into the ocean, glacier mass balance and grounding line stability, mechanical properties of the ice, and basal melting regime at the ice shelves undersides.

In this review paper, we will present the basic premises of the radar interferometry technique, and summarize recent scientific achievements. The presentation will end by a discussion of the future of this technique and its synergy with other remote sensing and in-situ survey techniques for glaciology applications.

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